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Partial Expansion of Polycrystalline Silicon Operations

Tokuyama Corporation

Tokuyama Corporation (President: Shigeaki Nakahara; “Tokuyama”) has decided to increase its polycrystalline silicon operations by debottlenecking. This will involve boosting production via the installation of more silicon reactors at the Tokuyama Higashi Plant (Shunan, Yamaguchi), coinciding with routine maintenance this October - November, and will increase annual production capacity by 400 tons, from 4,800 to 5,200 tons. Tokuyama plans to spend around one billion yen on this extension work.

Demand for polycrystalline silicon has been increasing since the start of 2002 following recovery in the semiconductor industry, coinciding also with rapid growth in demand from the solar cell sector. Therefore while Tokuyama is currently producing at full capacity, inventories are being eroded in order to meet demand, and Tokuyama has decided to make this upward adjustment in production in the hope that it will help ease current supply pressure.

Supplies of polycrystalline silicon for solar cells are also tight, and Tokuyama has decided to build a verification plant for vapor to liquid deposition (VLD)*, a promising new method for the manufacture of polycrystalline silicon for use in solar cells. This verification plant will take the previous pilot plant a stage further, and be built with a view to commercial production. Construction will commence at the Tokuyama Higashi Plant in January 2005 for completion by the end of the year. The new plant will cost around three billion yen, and will produce 200 tons of polycrystalline silicon annually. Shipments of samples to users are expected to commence in the first half of 2006. The construction of this verification plant has also been selected by NEDO (New Energy and Industrial Technology Development Organization) as a “technology development business accelerating the adoption of solar power generation systems” for 2004.

In terms of future plans, if verification of quality and technical issues at this verification plant go smoothly, Tokuyama will consider building a commercial plant with annual output of several thousand tons.

Note* Vapor to Liquid Deposition (VLD)

Using trichlorosilane (SiHCl_3) as the raw material, VLD involves deposition of liquid silicon directly from gas in a tubular reactor, and offers a deposition rate dramatically faster than the current production method, allowing polycrystalline silicon to be manufactured with much greater efficiency. Polycrystalline silicon manufactured using this method is of sufficient quality for solar cells, however at present improving quality further to enable its use in semiconductors as well is believed to be too problematic.